regression analysis found that the QT interval was independently correlated with age (B=0.249), gender (B=8.827), heart rate (B=1.276), left atria volume (B=0.344), mitral E wave deceleration time (B=0.058), and left ventricular ejection fraction (B=-0.335).

CONCLUSIONS QT interval was independently correlated with traditional cardiovascular risk factors such as age, heart rate, heart systolic and diastolic function in normal aging process of healthy population. It suggested that as noninvasive and easy to evaluated electrocardiographic index, QT interval may help to improve prediction of cardiovascular risk in healthy population.

GW26-e1476

Early Repolarization Pattern in Mexican Americans

Qi Chen,[1,2,3] Yutao Xi,[1,2] Jie Cheng[1,2]
[1]Section of Cardiology, Department of Internal Medicine, University of Texas Medical School at Houston, Houston, TX; [2]Texas Heart Institute, Houston, TX; [3]Section of Cardiology, Department of Internal Medicine, University of Texas Medical School at Houston, Houston, TX

OBJECTIVES We sought to determine the incidence and characteristics of ERP in community-dwelling Mexican Americans.

METHODS In 1923 subjects, ERP was defined as a notch or slur at the end of QRS with amplitude equal to or greater than 0.1 mV in 2 contiguous leads (V_1 to V_3 were excluded) on ECG. metabolic syndrome (MetS) were defined accordingto criteria of The National Cholesterol Education Program, Third Adult Treatment Panel guidelines.

RESULTS The incidence of ERP was 15.6% in our cohort, and 13.5% in subjects with MetS. In total, 75.3% ERP presented as QRS slurring, and 36% ERP located in inferior leads, and 82% followed by horizontal ST upsloping. In MetSsubjects, compared to those without ERP, subjects with ERP had relatively slower heart rate (59.62±8.03 bpm, *vs.* 61.32±7.86 bpm, $p < 0.05$), shorter QTc (394.67±17.74 ms, *vs.* 403.96±21.76 ms, $p < 0.001$) and higher value of $R_{V5}+S_{V1}$ (2.23±0.81 mV, *vs.* 1.78±0.51 mV, $p < 0.001$). After age and gender adjustment, shorter QTc and higher Sokolow-Lyon index were independently correlated with the presence of ERP.

CONCLUSIONS Mexican-Americans have slightly higher incidence of ERP than that in other community-based general populations. After age and gender adjustment, the presence of ERP was correlated to shorter QTc and higher Sokolow-Lyon index, but not to cardiovascular risk factors MetS subjects possessed of.

GW26-e1333

The Relationship between Deceleration Capacity of Rate and the Severity of Coronary Artery Lesions

Lin Wu, Xiaoxian Qian
Department of Cardiology, The Third Affiliated Hospital, Sun Yat-sen University

OBJECTIVES To investigate the relationship between the deceleration capacity of rate and the severity of coronary artery lesions.

METHODS 270 patients were performed 320-slices spiral CT and 24 hours Holter recording from Jul 2012 to Jun 2013. Age, gender, smoking, blood glucose and blood lipids were recorded. All cases were divided into two groups including coronary atherosclerosis group and non- coronary atherosclerosis group according to the results of coronary CT. The relations between deceleration capacity of rate, risk stratifications of sudden death and the severity of coronary artery lesions, the associations were analyzed.

RESULTS CHOL, TRIG, LDL-C and ApoA in coronary atherosclerosis group were significantly higher than those in non-coronary atherosclerosis group($P<0.05$). ApoB in coronary atherosclerosis group were significantly lower than that in non-coronary atherosclerosis group($P<0.05$). DC in coronary atherosclerosis group was significantly lower than that in non-coronary. The risk stratification of sudden death in coronary atherosclerosis group was significantly higher than that in non-coronary. DC was negatively correlated with the risk stratification of sudden death, the number of coronary artery stenosis and Gensini score ($P<0.05$).. The risk stratification of sudden death was positively correlated with the number of coronary artery stenosis and Gensini score ($P<0.05$).

CONCLUSIONS DC was associated with the severity and scope of coronary artery stenosis. DC was an important predictor of coronary artery disease.

GW26-e0739

A New Formula for Calculating the QT Interval in Left Bundle Branch Block

Binhao Wang,[1] Li Zhang,[1,2] Peixin Cong,[1] Yanzong Yang,[1] Yunlong Xia[1]
[1]Department of Cardiology, First Affiliated Hospital of Dalian Medical University, Dalian, Liaoning, China; [2]Center for Clinical Cardiology, Lankenau Institute for Medical Research, Sydney Kimmel Medical College of Thomas Jefferson Univ., Philadelphia, PA, US

OBJECTIVES QT prolongation is an independent risk factor for cardiac mortality. Left bundle branch block (LBBB) is not uncommon in elderly patients with cardiovascular diseases. Having a wide QRS duration, determining whether the QT interval is normal or prolonged in LBBB remains a challenge. We aim to develop a best-fit formula that can achieve an accurate estimate of heart rate corrected QT interval (QTc) in the presence of LBBB.

METHODS Patients undergone electrophysiologic study for arrhythmia ablation were enrolled to the study. We designed to achieve LBBB by temporary right ventricular (RV) apical pacing. RR interval, QRS duration and QT interval were measured manually in 30 patients (age 51 ± 30 years, 16 male) with normal QRS duration (≤120ms) under the baseline sinus rhythmn (SR) and during RV apical pacing. The pacing cycle was set to be slightly shorter than that in SR. The QRS duration difference between SR and RV pacing was defined as ΔQRS. Since ΔQRS is the main contributing factor in the artificially lengthened QT interval in the simulated LBBB, removing ΔQRS might achieve accurate estimate of the real QT interval. A formula best-fit the study data was therefore developed. The accuracy of using this formula to estimate the true repolarization time was tested by comparing with the baseline QTc values at SR and two prior QT formulae, Rautaharju and Bogossian formulae.

RESULTS A linear relationship between ΔQRS and pacing-QRS was found: ΔQRS = 0.7 * QRS - 50. A formula for LBBB patients was then derived as: QTc-LBBB = [QT - (0.7 * QRS - 50)] / sqrt RR. It is highly agreeable with each other when compared the QTc value obtained by using this formula to the baseline QTc at SR (440 ± 20ms vs 442 ± 20ms, p = 0.91). In contrast, Rautaharju and Bogossian formulae did not outperform this one.

CONCLUSIONS Determining whether the QT interval is prolonged in the presence of LBBB can be best achieved by applying a new linear QT formula.

GW26-e1521

Sinus Ventricular Conduction ECG Evolution Caused By Hyperkalemia After Diarrhea: A Case Report

Qifang Wang, Chunlin Gong, Dongyang Xie
The Second Hospital Attached to Gannan Medical University

OBJECTIVES In this paper, an old men presented with breathing difficulties due to chronic recurrent lower extremity edema, recently developed diarrhea, palpitations and fatigue symptoms.

METHODS Improve the relevant checks initial diagnosis: senile valvular heart disease atrial fibrillation heart failure, renal failure before kidney and hyperkalemia. The patient with long-term use of drugs to treat heart disease foundation. This onset of diarrhea, the symptom of abnormal severe hyperkalemia is originated from diarrhea, which may due to the usage of drugs in a dehydrated state.

RESULTS The dynamic observation of ECG evolution and supportive treatment corrected hyperkalemia and ECG returned to the level before the onset of the times. Diarrhea is a common clinical cause for hypokalemia. In this case, hyperkalemia caused by long-term chronic heart failure and diarrea is worthy of special attention in clinical treatment.

CONCLUSIONS After rehydration treatment such as increased urine output, potassium gradually returned to normal, ECG characteristic changes, also has a certain significance of teaching.